CUP FOR MEASURING AND DISPENSING POWDERED PRODUCT

FIELD OF THE INVENTION

The invention relates generally to the precise measurement of powdered ingredients as used in laboratory, cooking, or baking applications.

BACKGROUND OF THE INVENTION

Powdered or dry ingredients are used in a variety of applications throughout numerous industries. The practice of accurately measuring and dispensing powdered products requires two essential steps. First, a precise quantity of the powdered ingredient must be collected. Second, the measured powder must be precisely delivered to a mixing area or container without spillage. To accomplish the first step, often a "dry" measuring container, cup or scoop is used that is sized to have a given volumetric capacity when filled up to its top edge or rim. To ensure a proper measurement, the powdered ingredient is "leveled" with the top edge of the cup. This is typically done by overfilling the cup with the powdered ingredient and then running a flat blade over the top edge of the measuring cup, thereby leveling the powdered contents and ensuring the volume of powder matches the capacity of the cup. Dispensing the measured powder is often haphazardly conducted by placing the cup over a mixing area and simply inverting the cup. As a result, the powder is generally transferred to the mixing area; however, significant spillage or clumping of the powder often occurs. Additionally, dispensing a measured ingredient in this way does not accommodate a targeted transfer of the powder into containers having small entry openings such as baby bottles , or the like.

It is desirable then, to produce a measuring and dispensing apparatus that precisely measures powdered ingredients and accurately dispenses those ingredients even into containers having narrow openings. Further, it is desirable that the measuring and dispensing apparatus deposit the powdered ingredients into the container uniformly, so as to avoid clumping of the powder.

BRIEF SUMMARY OF THE INVENTION

The present invention addresses the above needs and achieves other advantages by providing an improved apparatus for measuring and dispensing powdered products. The apparatus includes a cup portion and funnel-shaped dispenser portion. The cup holds the powdered material to be measured and is sized to contain a desired volume of powder when filled to its upper edge. The upper edge of the cup has a flat surface to accommodate leveling of the powdered ingredients. The funnel-shaped dispenser has a flat edge at its receiving opening, and thus serves as a leveler when scraped across the cup. The dispenser also facilitates the accurate and uniform transfer of the measured powder into a mixing area. To support these dual functions, the flat edge at the dispenser's receiving opening is sized for engaging the upper edge of the cup so that the cup and dispenser can be abutted with substantially no gap between them.

To use the apparatus of the present invention, the cup portion is overfilled with a powdered ingredient. The funnel-shaped dispenser is then lowered over the overfilled mound of powdered material until the flat edge of the dispenser contacts the upper surface of the cup. When leveling, the dispenser is displaced laterally such that excess powder is removed and that which remains is level with the top surface of the cup portion, thereby producing an accurate measurement. Once a proper measurement of powdered material is obtained, the dispenser is replaced in concentric contact with the top surface of the cup. When dispensing, the apparatus is moved over the mixing area and is inverted. The measured contents are thereby transferred through the funnel-shaped dispenser to the mixing area. The present invention provides significant benefits to users including ensuring accurate measurement by eliminating spillage, reducing clumping, and facilitating the dispensing of powdered ingredients into narrow mixing containers.

In one preferred embodiment of the present invention, the cup portion and the funnel-shaped dispenser each have handle members. The handle members serve to aid in the use and manipulation of the cup/dispenser and are moveably joined to one another, such as by a pin, ring, or the like.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

Having thus described the invention in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

Fig. 1 is a perspective view of a measuring and dispensing apparatus in accordance with one embodiment of the present invention;

Fig. 2 is a section view of the funnel-shaped dispenser portion of the measuring and dispensing apparatus of **Fig. 1** taken along section line 2-2;

Fig. 3 is a section view of the cup portion of the measuring and dispensing apparatus of **Fig. 1** taken along section line 3-3;

Fig. 4 is a perspective view of one embodiment of the measuring and dispensing apparatus of the present invention, illustrating the cup portion over-filled with a powdered ingredient;

Fig. 5 is a section view illustrating the "leveling" or measuring of a powdered ingredient, wherein the funnel-shaped dispenser is translated laterally over the flat upper surface of the cup portion such that any excess powder is removed;

Fig. 6 is a section view of a measuring and dispensing apparatus in accordance with the present invention, illustrating the completion of the measuring process wherein the funnel-shaped dispenser is replaced in concentric contact with the cup;

Fig. 7 is a section view illustrating the dispensing of a powdered ingredient, wherein the measuring and dispensing apparatus is inverted, thereby allowing the measured ingredient to flow through the funnel-shaped dispenser into a narrow mixing container.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention now will be described more fully hereinafter with reference to the accompanying drawings, in which some but not all of the embodiments of the inventions are shown. Indeed, these inventions may be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will satisfy applicable legal requirements. Like numbers refer to like elements throughout.

Fig. 1 illustrates one preferred embodiment of a measuring and dispensing apparatus **10** in accordance with the present invention, having a cup **11** and a funnel-shaped dispenser **30**. Although optional, **Fig. 1** depicts the cup **11** and funnel-shaped dispenser **30** as having handle members **14, 34**. Such handle members support the convenient use and manipulation of the measuring and dispensing apparatus **10**; however, such handles may be replaced with straps, springs, etc., or entirely omitted should the measuring and dispensing processes be automated. If handles are used, they may be connected to one another via a ring (as shown), pin or other similar connection apparatus **20**.

Fig. 2 provides a section view depicting the funnel-shaped dispenser **30**, wherein the dispenser **30** has a relatively large receiving opening **35** and a relatively smaller exit opening **33**. The perimeter of the receiving opening **35** defines a flat leveling surface **31**. Opposing the flat leveling surface **31**, is the flat upper edge **12** of the cup **11** as shown in **Fig. 3**. The flat leveling surface **31**, and the flat upper edge **12** are sized and shaped to be abutted with one another with substantially no gap therebetween, such that no powder is allowed to escape when the receiving edges of the dispenser **30** and cup **11** are pressed together. Although depicted as semi-circular, the cup **11** may take various shapes (e.g., rectangular, square, triangular, etc.) so long as the cup **11** is ultimately capable of holding a given volume of powder. Additionally, though the flat upper edge **12** of the cup **11** is shown in **Fig. 1** as generally oval in shape, it too may be of various shapes (e.g., rectangular, square, triangular, etc.) so long as the flat leveling surface **31** of the funnel-shaped dispenser **30** is shaped and sized to match as described above.

Figs. 4, 5, 6 and **7** illustrate the operation of one preferred embodiment of the present invention. Specifically, the cup **11** is over-filled with a powdered ingredient **40** as shown in **Fig. 4**. The powder is then "leveled" as shown in **Fig. 5** by laterally translating the funnel-shaped dispenser **30** over the cup **11**, such that the upper edge **12** of the cup **11** is maintained in intimate contact with the flat leveling surface **31** of the dispenser **30**. Alternatively, the powder may be leveled by lowering the funnel-shaped dispenser **30** over the overfilled mound of powdered material **40** such that the flat leveling surface **31** of the dispenser **30** is placed in concentric contact with the upper surface **12** of the cup **11**. The dispenser **30** may then be translated laterally as described

above, such that any excess powder is removed. Once leveled, the funnel-shaped dispenser **30** is replaced in concentric contact with the cup **11** as shown in **Fig. 6**.

Finally, dispensing of the measured powder **40** occurs by inverting the measuring and dispensing apparatus **10,** such that the measured powder **40** flows through the funnel-shaped dispenser **30**. The relatively small exit opening **33** of the funnel-shaped dispenser **30** accommodates a uniform transfer of the powder, even into containers having narrow openings.

Many modifications and other embodiments of the invention set forth herein will come to mind to one skilled in the art to which these inventions pertain having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the inventions are not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for the purposes of limitation.